Message from the IWSC’05 Workshop Organizers

Software cybernetics explores the interplay between software/software behavior, and control. The fundamental question of interest is: when can, and quantitatively speaking, how can software behavior, software processes, or software systems be adapted or evolved to meet previous and current objectives in the presence of a changing environment, e.g., disturbances, faults, or expanded requirements? This emerging inter-disciplinary area addresses issues and questions on (1) the formalization and quantification of feedback and self-adaptive control mechanisms in software, (2) the adaptation of control theory principles to software processes and systems, (3) the application of software engineering principles and theories to control systems, and (4) the integration of the theories of software engineering and control engineering.

The Second International Workshop on Software Cybernetics (IWSC’05) is successor to the First International Workshop on Software Cybernetics (IWSC’04), which was held in conjunction with COMPSAC’04, September 28-30, 2004, Hong Kong. Besides the technological motivation above, this second workshop is also motivated by the enthusiastic participation and success of IWSC’04. 17 papers are accepted for presentation at IWSC’05, including 2 invited papers, 4 regular papers and 11 short papers. Authors of these papers come from China, Finland, Germany, Turkey, the UK, and the USA, a truly growing international community.

The objectives of IWSC’05 are (1) to further identify and set forth various seemingly unrelated research areas that impinge on the emerging area of software cybernetics; (2) to further formulate and clarify the emerging fundamental principles of the new area, review the state-of-the-art, advance existing frontiers, and identify new research directions and application topics; and (3) to assist researchers and practitioners in this new area to get acquainted, promote cooperation and collaboration among them, and encourage others to participate in this research. Like-minded researchers and practitioners will find that IWSC’05 will serve as an interaction platform to first articulate the on-going work in this research area to better define and clarify the emerging themes and directions of software cybernetics and to implicitly set forth the fundamental principles of control and software engineering on which software cybernetics must build. Through discussions we hope to chart out an agenda for future theoretical and experimental research in this area.

We thank the authors for their submissions and presentations. We are indebted to the PC members for agreeing to serve on the Program Committee and for devoting their precious time to review the submittals. COMPSAC’05 is an excellent forum for hosting IWSC’05. The kind cooperation and generous support of Stephen S. Yau (Standing Committee Chair) and Eric Wong (Workshops Chair) are most appreciated. Last but not the least, we are grateful to David Card, Editor-in-Chief of the Journal of Systems and Software, for kindly agreeing to include a special section in an issue of the journal for ISWC’05.

We hope you will enjoy the workshop and look forward to your further participation in the Third International Workshop on Software Cybernetics in 2006.

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